

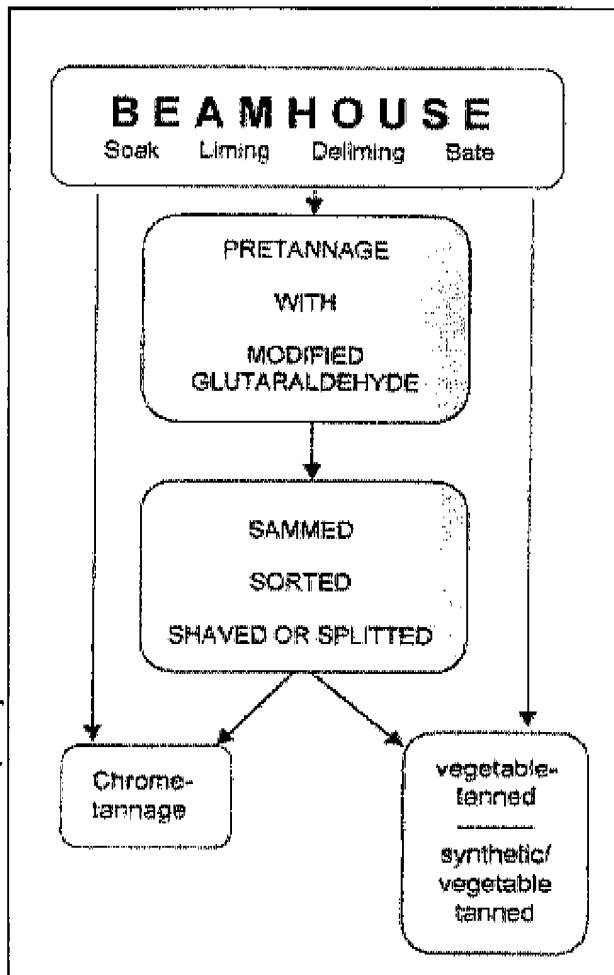
# Schill + Seilacher Leather Division

## Increased tannery flexibility

Today more and more leather production tends to be divided into two branches, that of chrome and that of vegetable tanned leather (chrome-free leather).

With the **DERUGAN 2080 / 3080 SYSTEM** we introduce a system which unifies the two branches that through a single pretanning system a pretanned stock is produced whose leather character is not predetermined.

With the pretanned stock it is possible to produce e.g. a **chrome tanned** garment or upper leather or indeed a **vegetable tanned** car upholstery leather (chromefree).



Thereby the tanners is given the flexibility to react quickly to change market conditions and / or environmental laws.

**Dr. J. Sagala  
Schill + Seilacher AG  
Böblingen**

**Wet-white shavings caused by the DERUGAN process**

The bi-reactive and modified aldehyde tanning methods should rank among the latest most promising pretanning methods. Glutardialdehyde is undoubtedly the tanning agent with the greatest future, even though it has received far too little attention in the past. However, Schill & Seilacher, use it mainly no longer in his pure form but rather in an improved preparation (DERUGAN 2020, 2080, 3020 and 3080). These modified products are mixtures of glutardialdehyde with a reversible-acting masking agent with improved tanning properties. The active components of this mixture are formed after dilution with water, and they react with primary and secondary amines of hides by expelling water to form azomethines which are well known as Schiff's base. The Cross-linkage of the collagen fibres with glutaraldehyde is very stable and irreversible. No free glutaraldehyde is detectable in the leather if it is correctly applied. Furthermore, as opposed to formaldehyde tanning, this cross-linkage remains stable to hydrolysis during extended storage. The use of glutardialdehyde as the sole tanning agent was frequently avoided due to the danger of exclusive surface tanning. Pretanning can be optimised by using the mentioned mixture. Since this improved agent has a certain surface active effect the tanning reaction is more controlled with raw hides containing an excess of natural grease.

**The wet-white leather has a light colour and a shrinkage temperature of 70 - 78°C, and it can be mechanically processed in the same manner as wet-blue leather.**

**Treatment of the pretanned hide with synthetic or vegetable tanning agents will produce high-quality, metal-free shoe, clothing automotive and upholstery leather without any problems.**

**Shavings and trimmings from the wet-white process, pretanned with modified dialdehydes contain virtually no tanning agents and fungicides so that they become useful products (e.g. fertilizers, fodder and protein hydrolysates).**

**Fertilizers**

The untanned wastes, slurries containing collagen and the residues of leather grades not tanned with chrome, e.g. vegetable-tanned leather, wet-white, etc. can be used directly in agriculture, for instance as mulch for fruit growing. The recent „modern“ biofertilizers and leaf-greeners on a „purely biological“ basis always contain some collagen when produced with a proportionate amount of abattoir waste.

Although they are only slowly decomposed, they have the effects of an organic nitrogen fertilizer that remains effective over a period of several months.

**However, vegetable-tanned leather should not be worked deep into the soil because the vegetable tanning agents inhibit root growth [Lutzenberger, J.A.: Das Leder vol. 7 (1994), p. 80]. Nowadays, it is difficult to sell fertilizers that contain chrome, even if they contain only traces of Cr(III) [Reich, G.; Das Leder (1995)]. Whether or not this is**